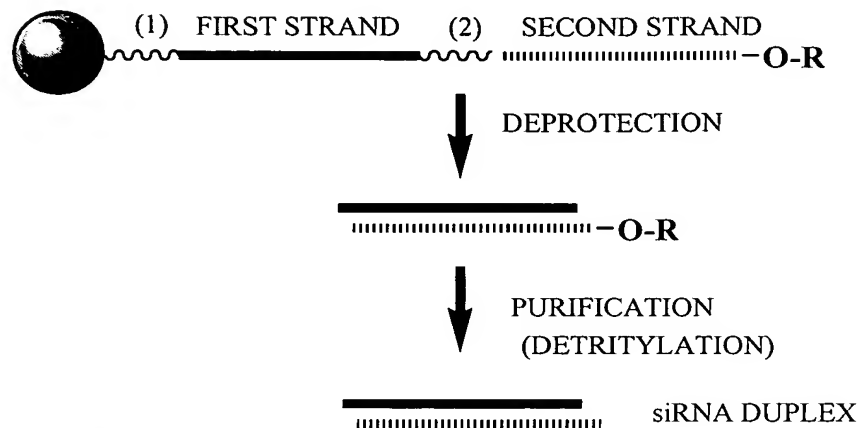
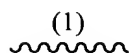
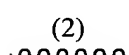


Figure 1



 = SOLID SUPPORT

R = TERMINAL PROTECTING GROUP
 FOR EXAMPLE:
 DIMETHOXYTRITYL (DMT)

(1)  = CLEAVABLE LINKER
 (FOR EXAMPLE: NUCLEOTIDE SUCCINATE OR
 INVERTED DEOXYABASIC SUCCINATE)
 (2)  = CLEAVABLE LINKER
 (FOR EXAMPLE: NUCLEOTIDE SUCCINATE OR
 INVERTED DEOXYABASIC SUCCINATE)

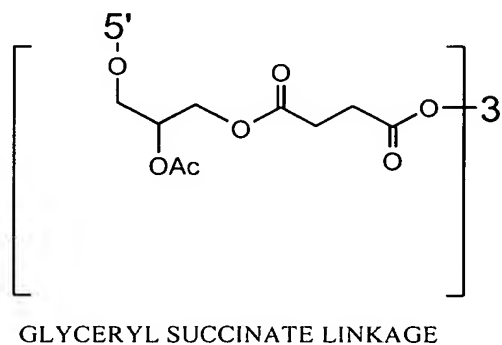
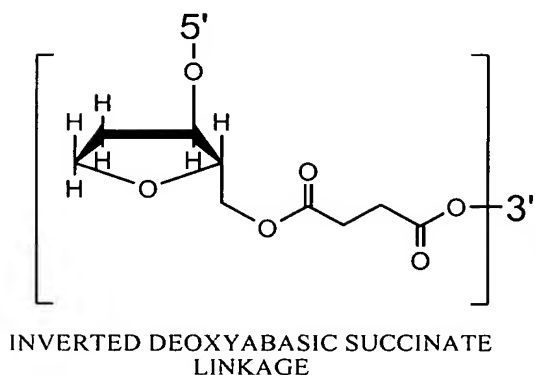


Figure 2

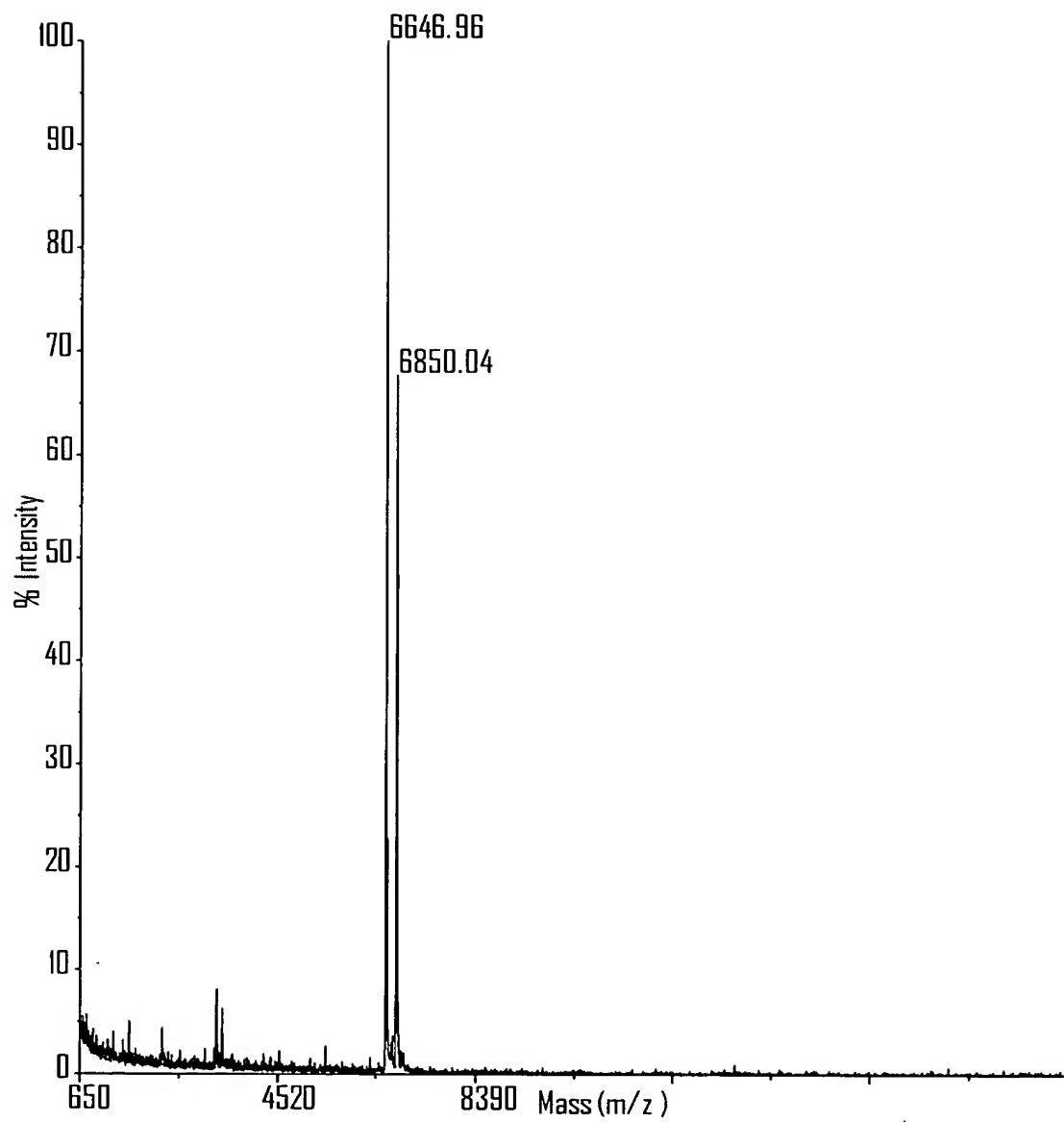


Figure 3

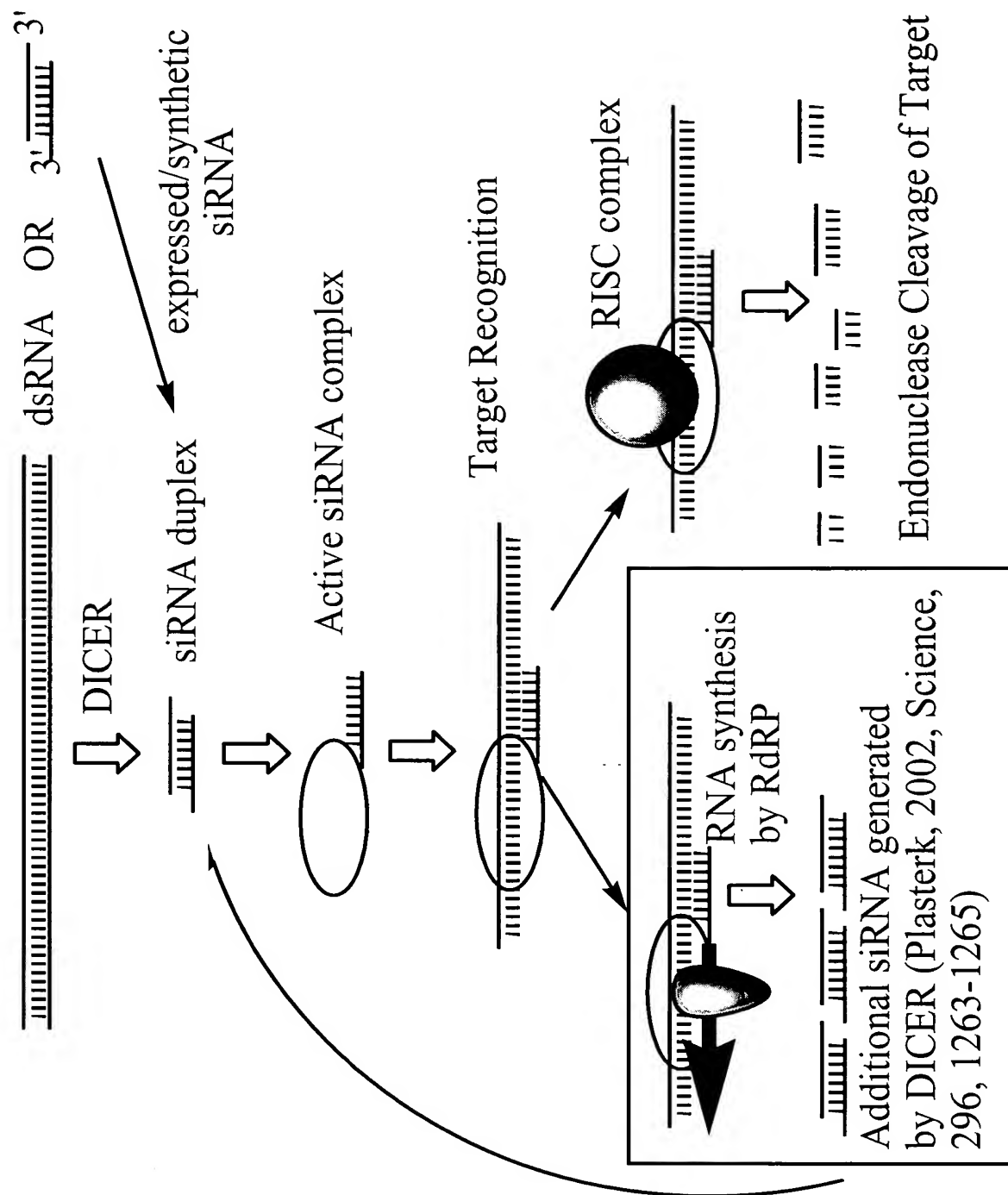
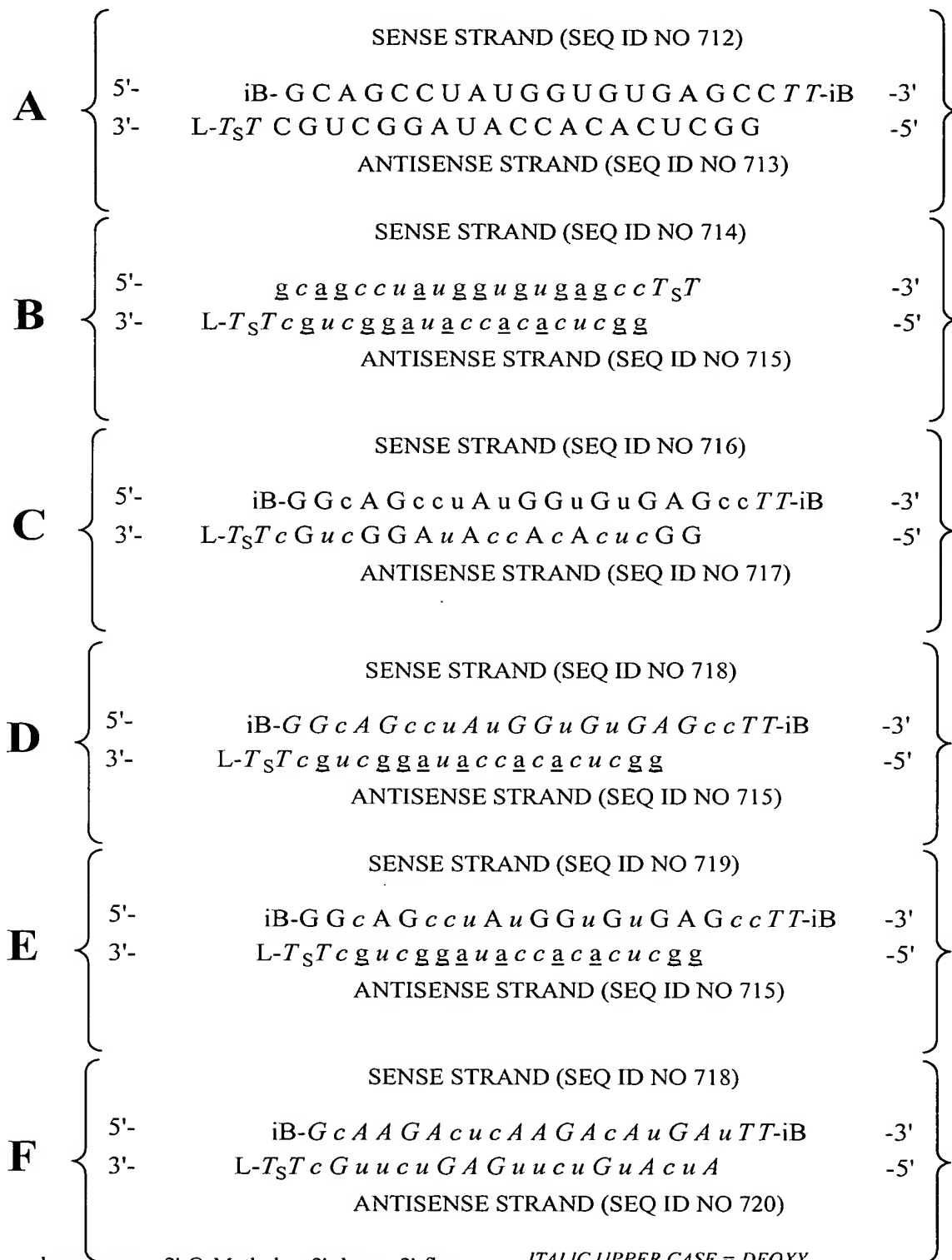


Figure 4



POSITIONS (NN) CAN COMPRISE ANY NUCLEOTIDE, SUCH AS DEOXYNUCLEOTIDES (eg. THYMIDINE) OR UNIVERSAL BASES
 B = ABASIC, INVERTED ABASIC, INVERTED NUCLEOTIDE OR OTHER TERMINAL CAP THAT IS OPTIONALLY PRESENT
 L = GLYCERYL or B THAT IS OPTIONALLY PRESENT
 S = PHOSPHOROTHIOATE OR PHOSPHORODITHIOATE that is optionally absent

Figure 5



lower case = 2'-O-Methyl or 2'-deoxy-2'-fluoro

italic lower case = 2'-deoxy-2'-fluoro

underline = 2'-O-methyl

ITALIC UPPER CASE = DEOXY

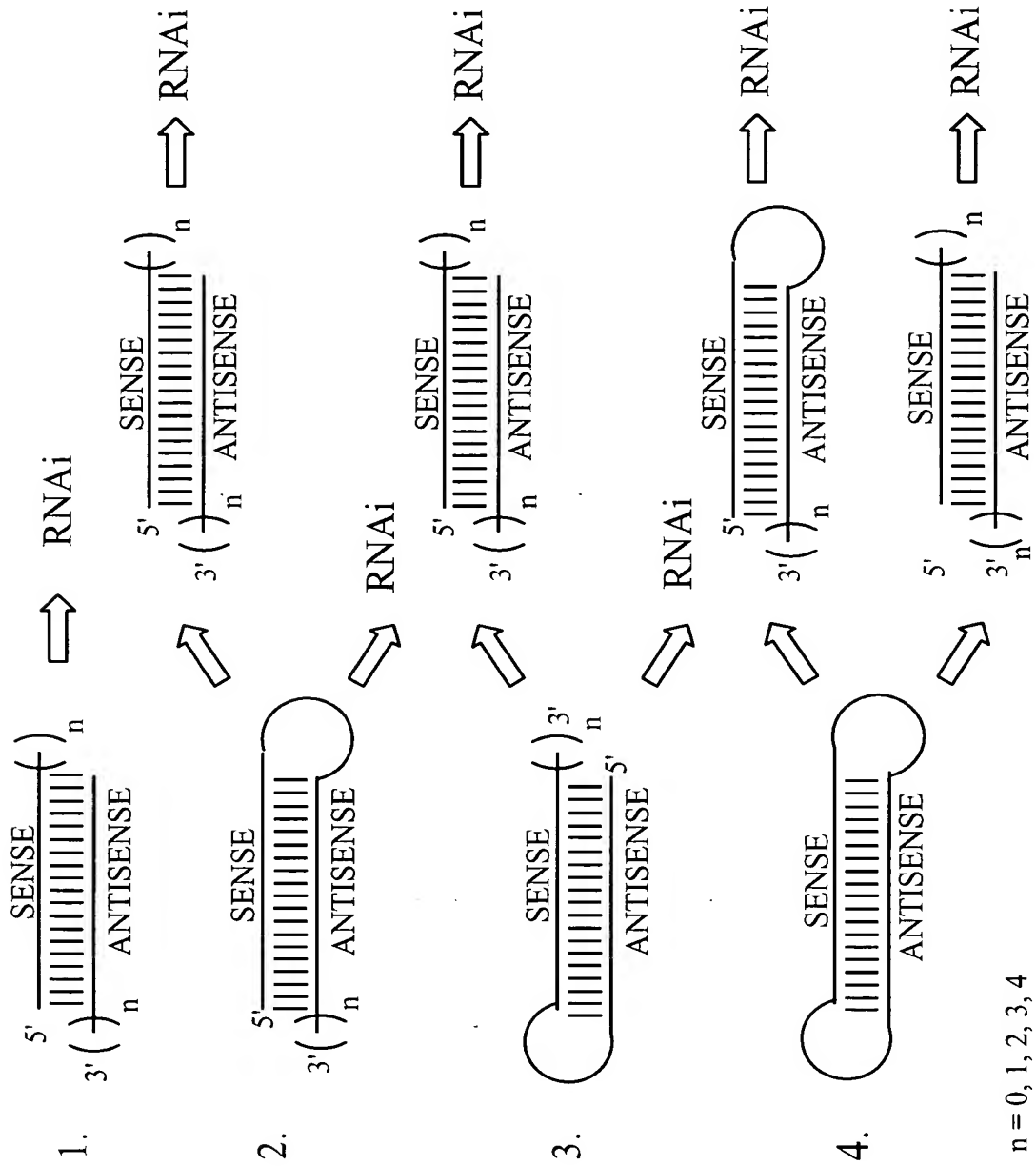
iB = INVERTED DEOXYABASIC

L = GLYCERYL MOIETY or iB OPTIONALLY PRESENT

S = PHOSPHOROTHIOATE OR

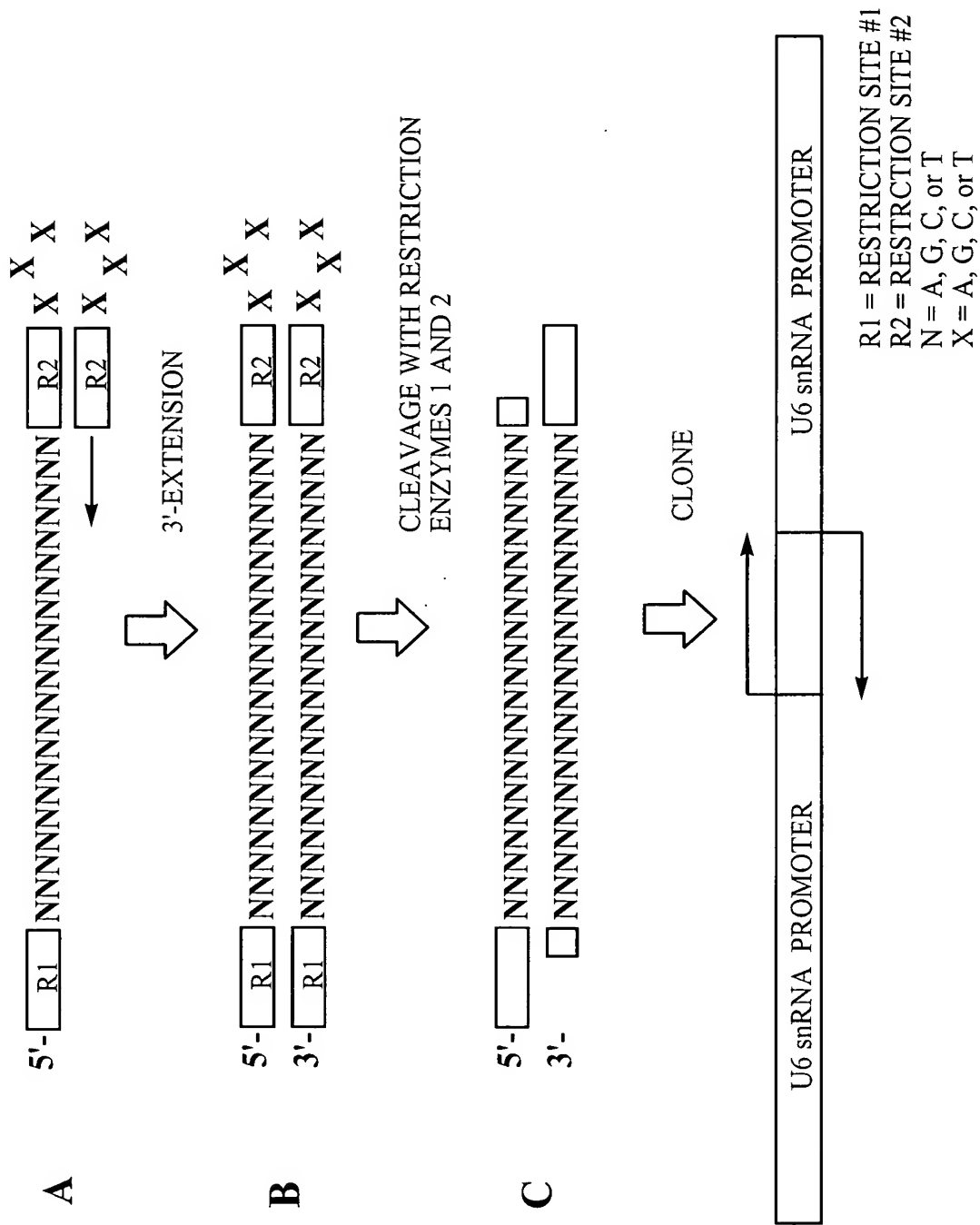
PHOSPHORODITHIOATE OPTIONALLY PRESENT

Figure 6



[illegible]

Figure 8



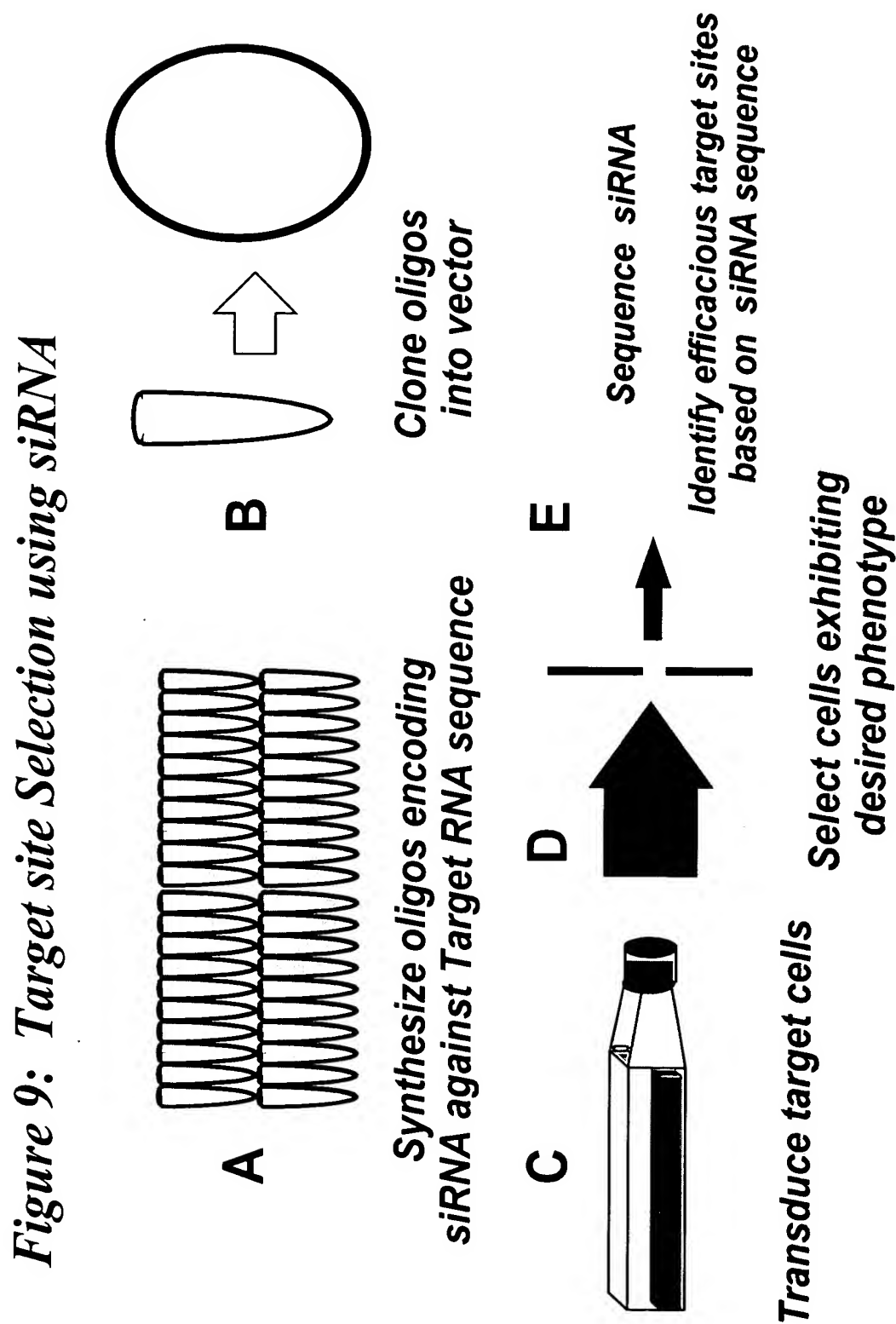
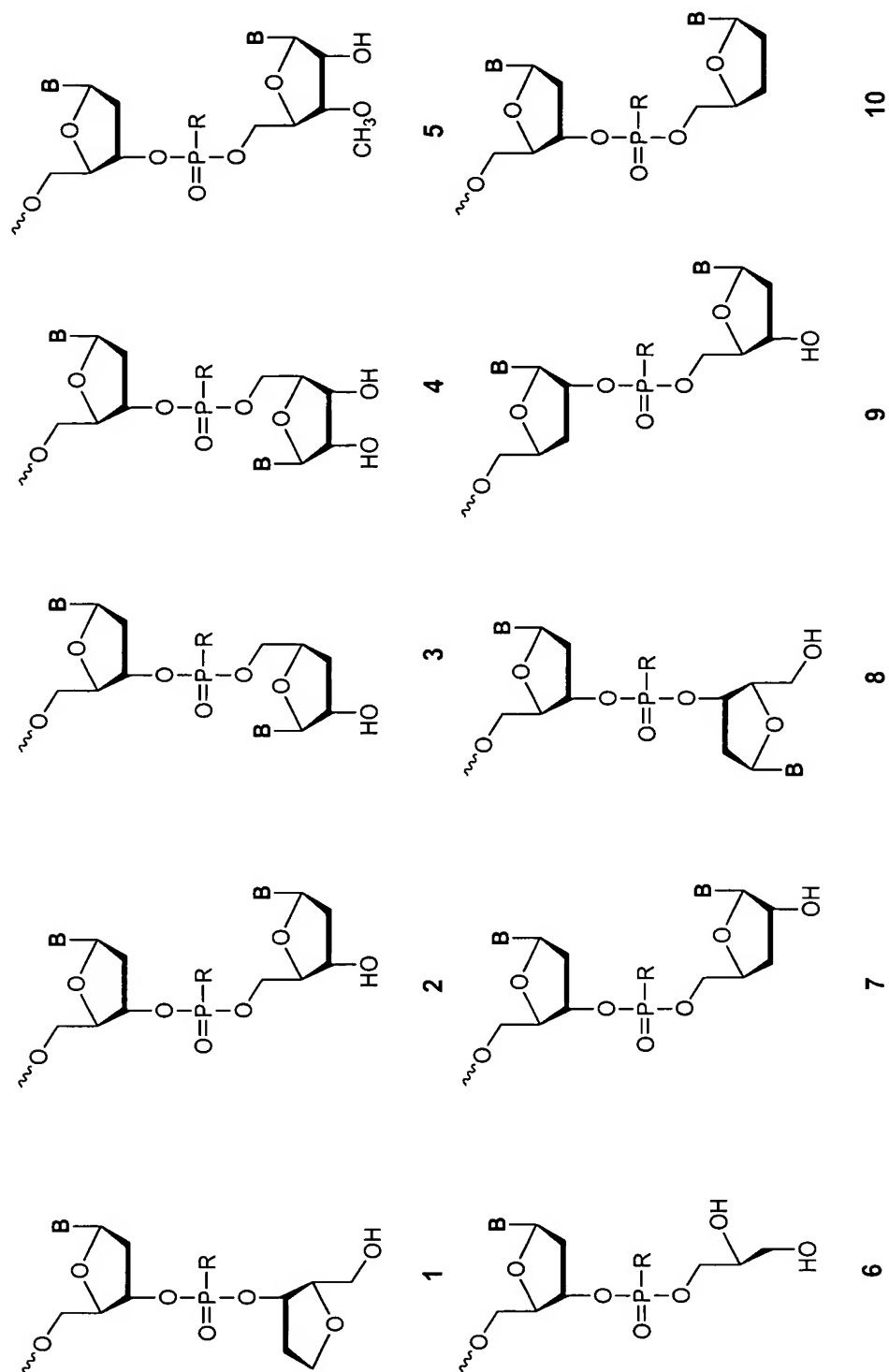


Figure 10



R = O, S, N, alkyl, substituted alkyl, O-alkyl, S-alkyl, alkaryl, or aralkyl
 B = Independently any nucleotide base, either naturally occurring or chemically modified, or optionally H (abasic).

Figure 11: Modification Strategy

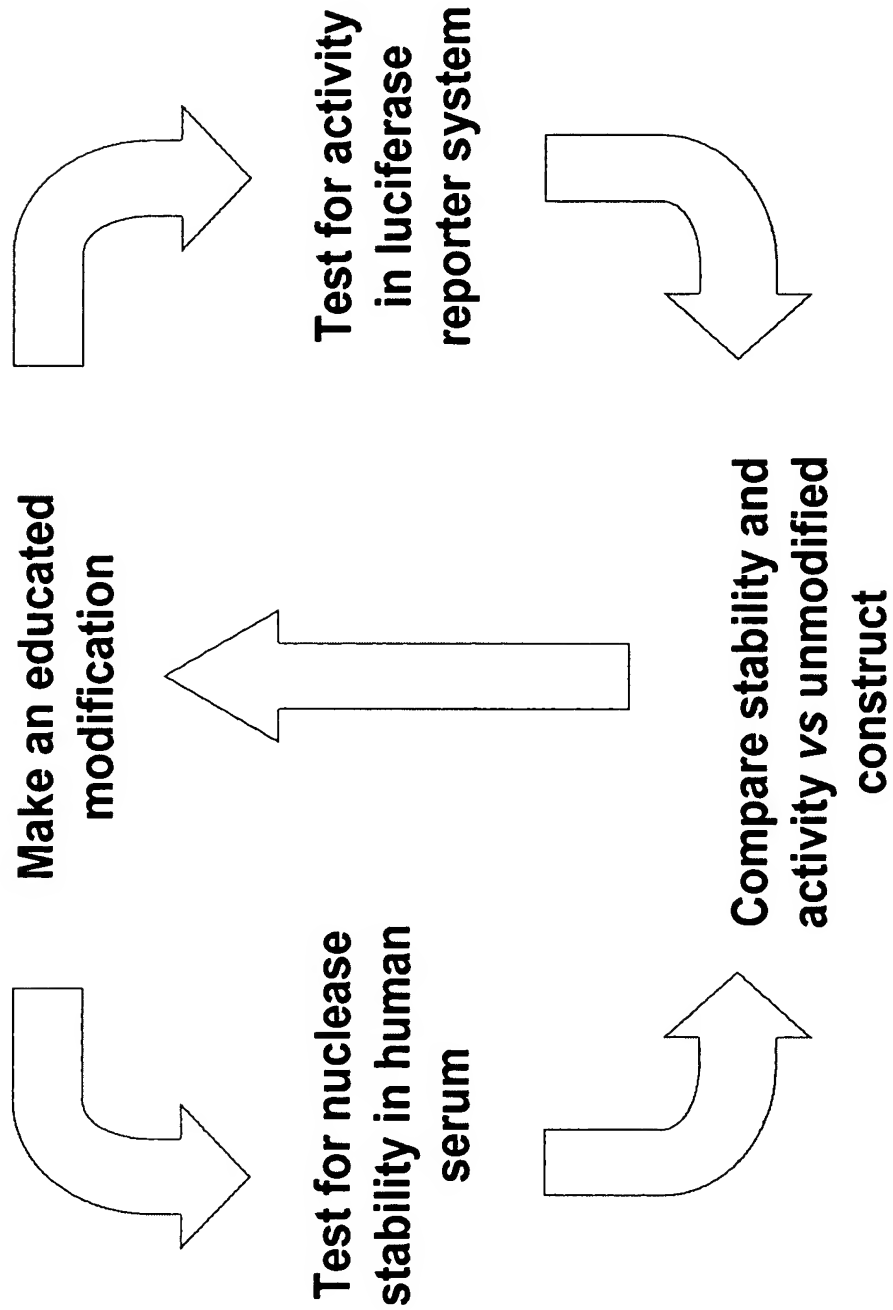
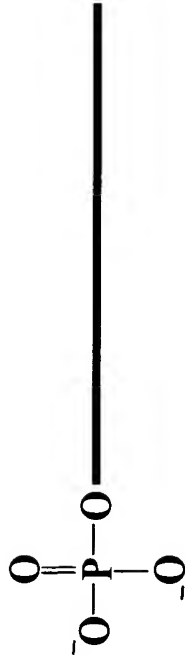
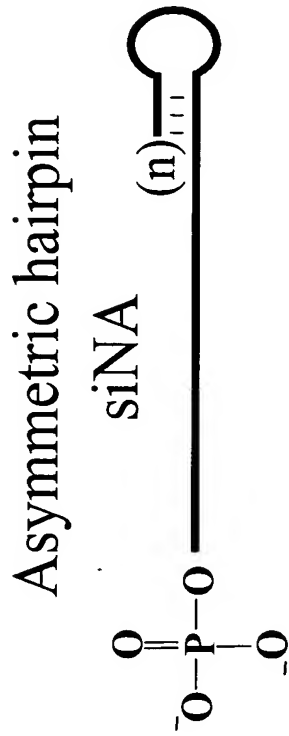
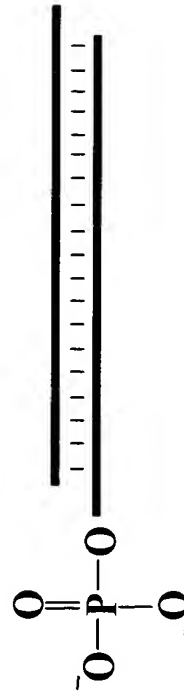


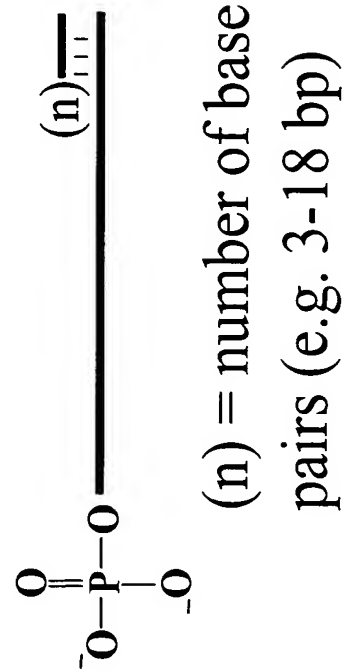
Figure 12: Phosphorylated siNA constructs



Phosphates can be modified as described herein



Asymmetric duplex
siNA



Sulfonic acid equivalent or Vanadyl equivalent with any combination of other modifications herein

Figure 14A: Duplex forming oligonucleotide constructs that utilize *palindrome* or *repeat* sequences

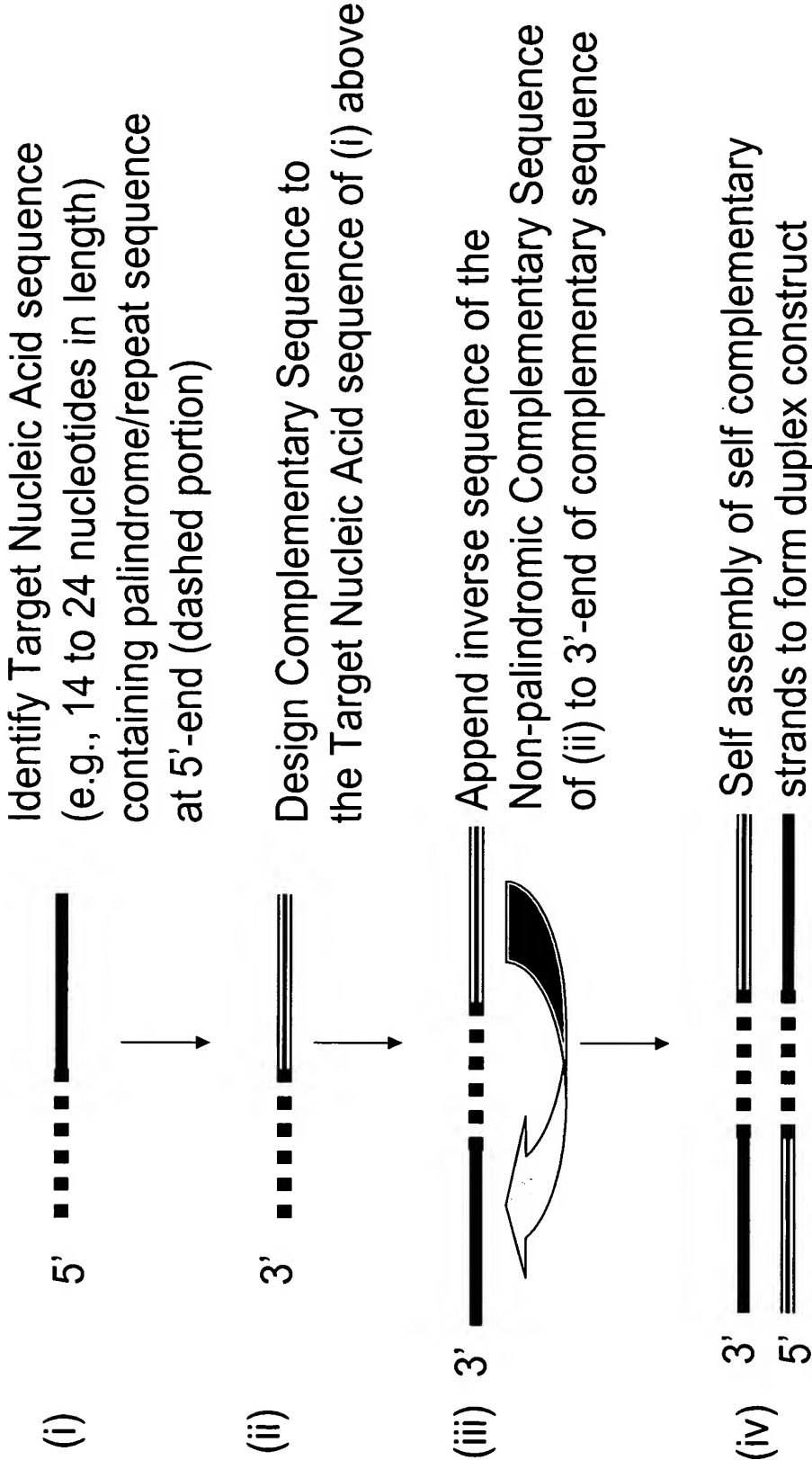


Figure 14B: Example of a duplex forming oligonucleotide sequence that utilizes a palindrome or repeat sequence

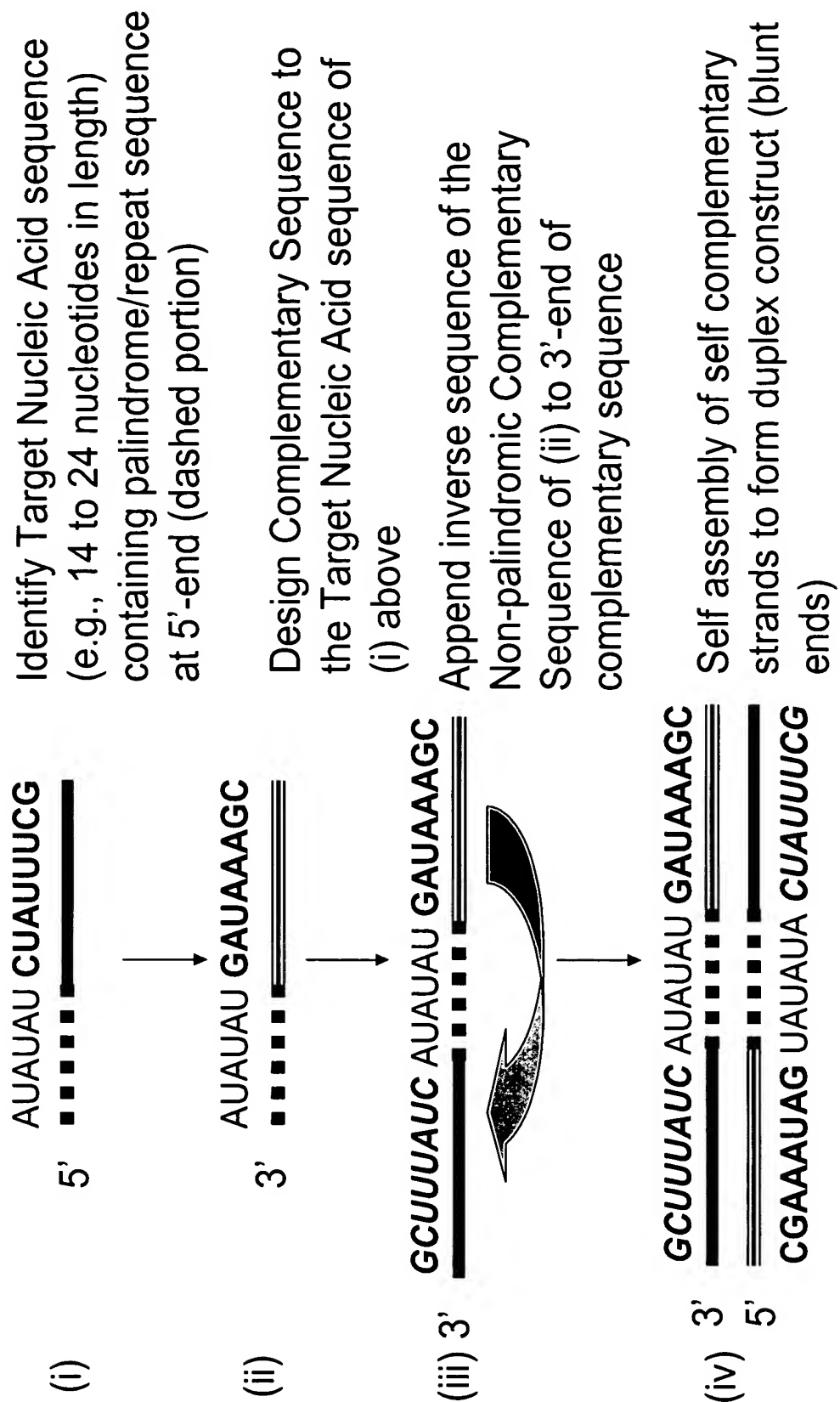


Figure 14C: Example of a duplex forming oligonucleotide sequence that utilizes a palindrome or repeat sequence, self assembly

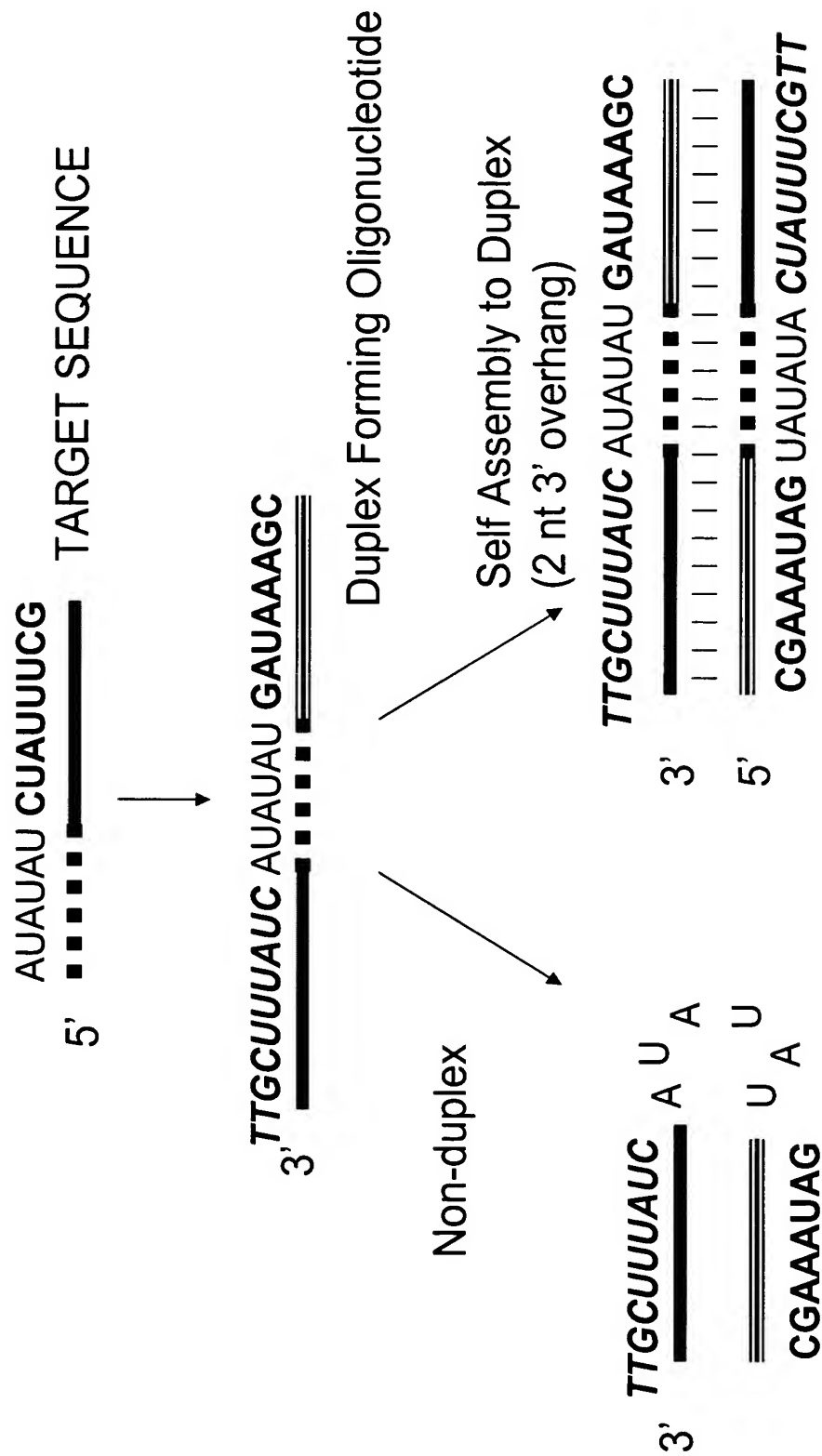


Figure 14D: Example of a duplex forming oligonucleotide sequence that utilizes a palindrome or repeat sequence, self assembly and inhibition of Target Sequence Expression

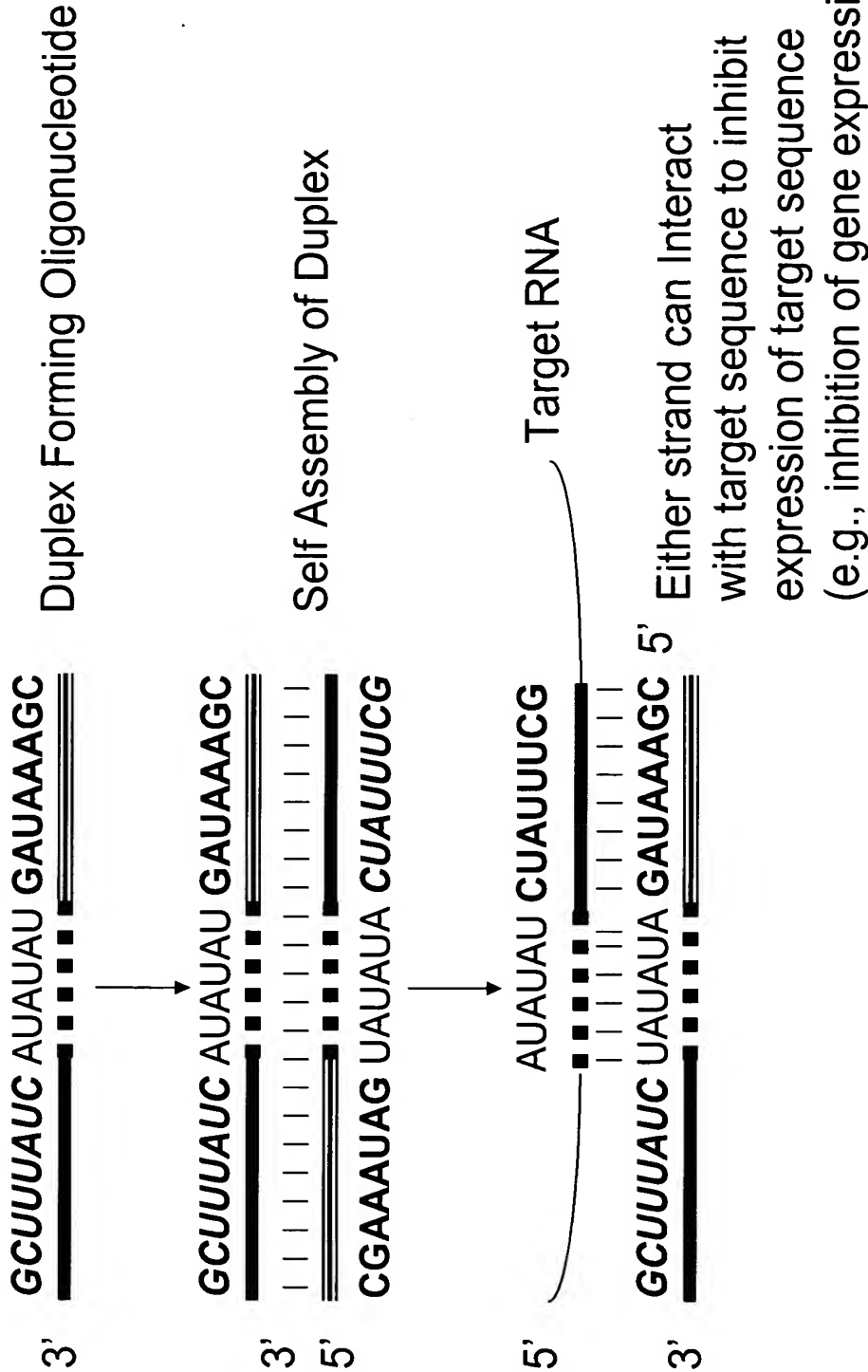


Figure 15: Duplex forming oligonucleotide constructs that utilize artificial palindrome or repeat sequences

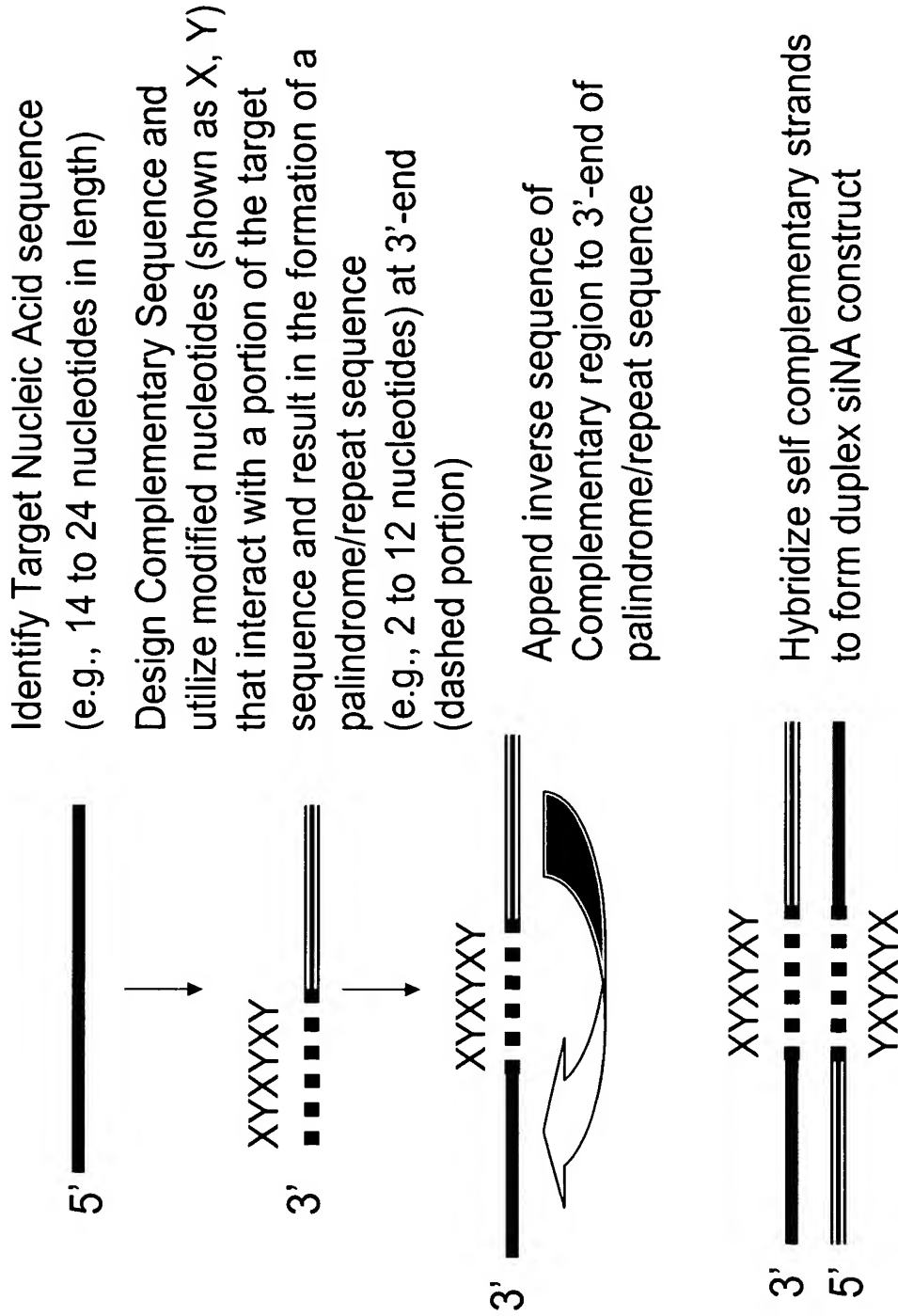


Figure 16: Examples of double stranded multifunctional siNA constructs with distinct complementary regions

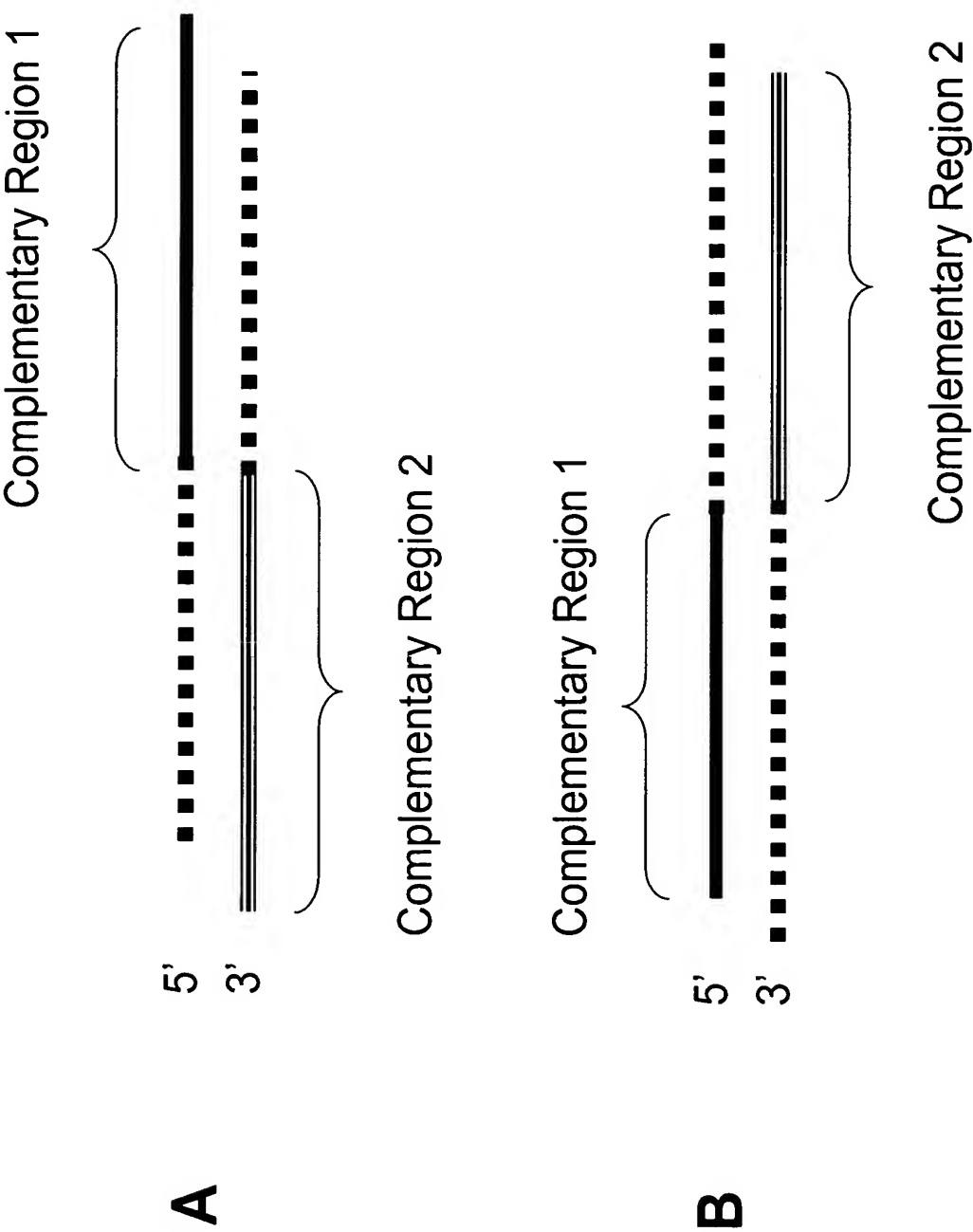


Figure 17: Examples of hairpin multifunctional siNA constructs with distinct complementary regions

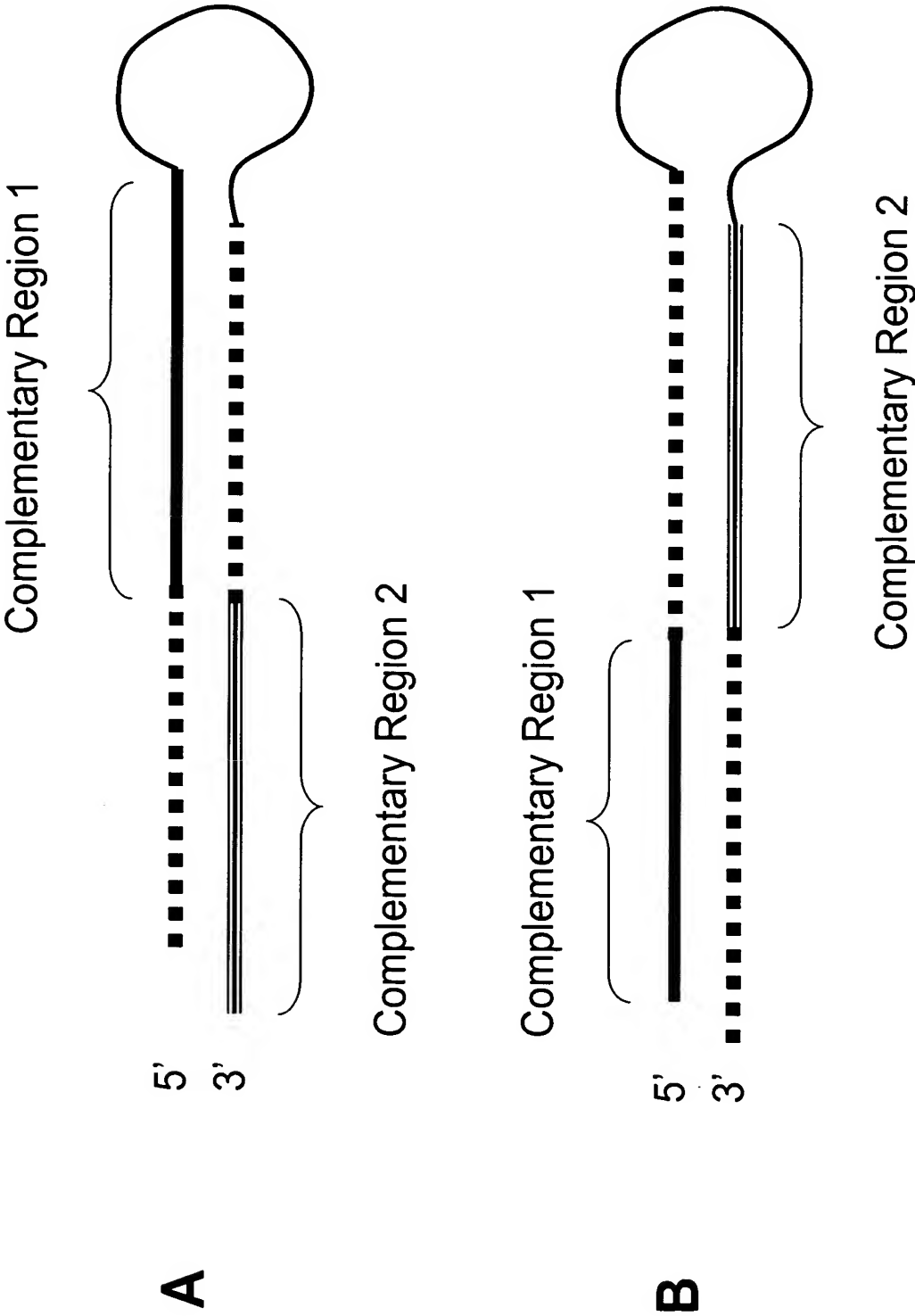


Figure 18: Examples of double stranded multifunctional siNA constructs with distinct complementary regions and a self complementary/palindrome region

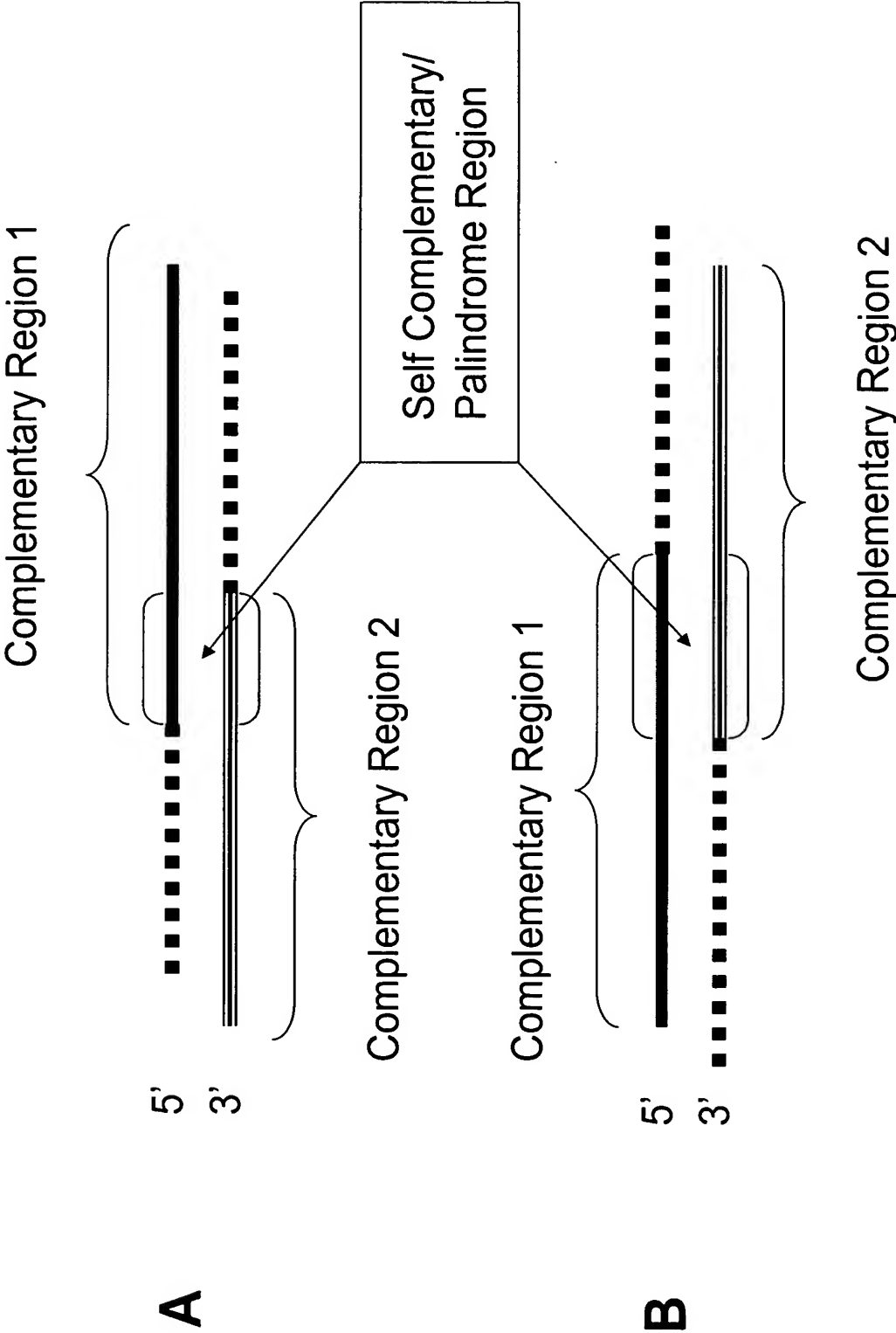
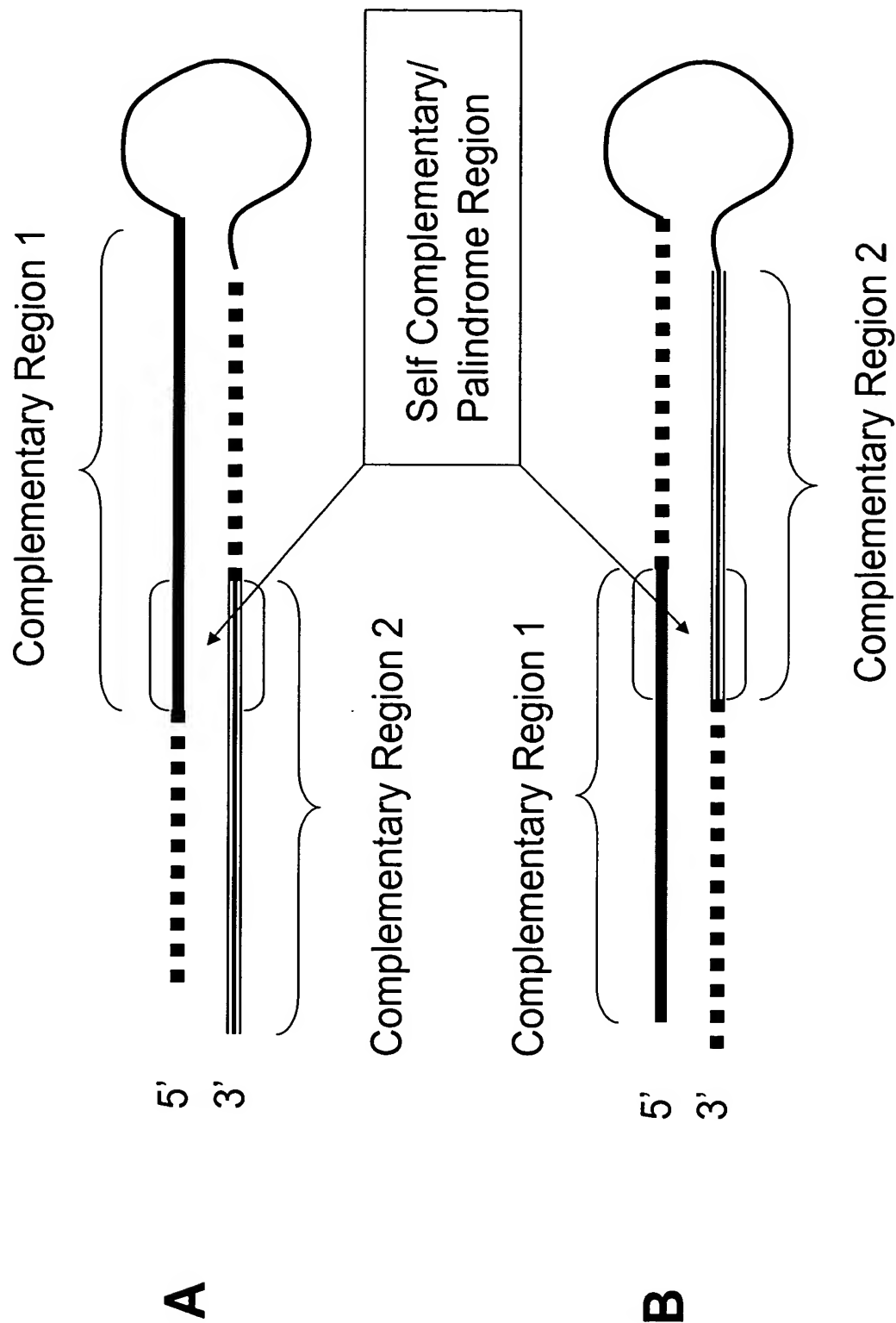


Figure 19: Examples of hairpin multifunctional siNA constructs with distinct complementary regions and a self complementary/palindrome region



**Figure 20: Example of multifunctional siNA targeting two separate
Target nucleic acid sequences**

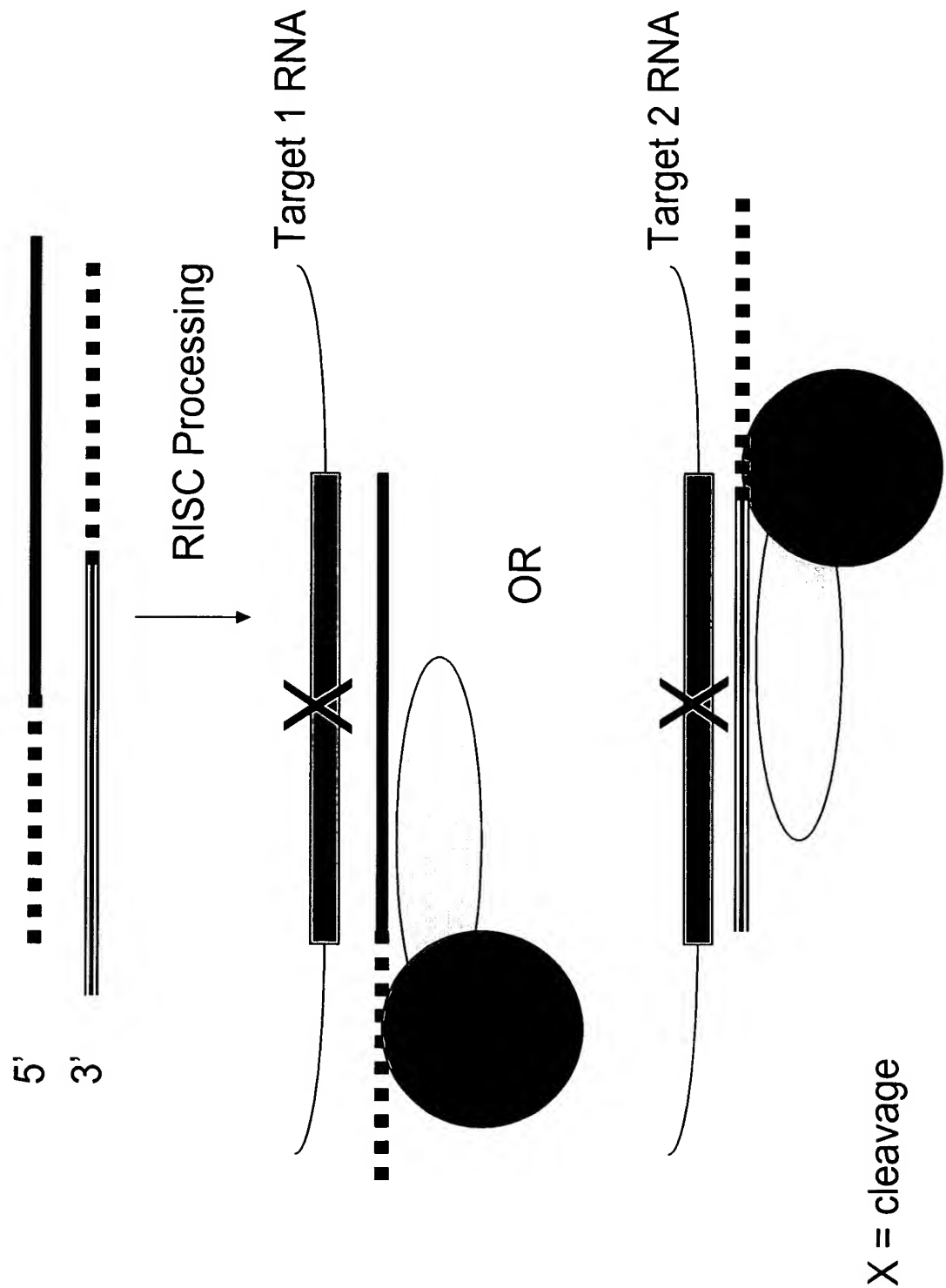


Figure 21: Example of multifunctional siNA targeting two regions within the same target nucleic acid sequence

